Illinois Environmental Protection Agency · 1701 First Avenue, Maywood, IL 60153

DATE: January 4, 1991 **Date of Inspection:** November 2, 1990

TO: Sy Levine **Last Insp. Date:** October 30, 1989

FROM: Harish Narayen **Region/District:** 104

Facility: Foseco Inc. - Chicago Plt. **I.D. #:** 031 600 EFR

Address: 10823 South Langley Ave., Chicago 60628

Contact/Title: Alfred A. Kiss/Maint. Engr. Mgr. **Phone:** 312/785-5131
Carl Weaver/Plant Mgr.

1.0 Product-Process Description

The facility manufactures a variety of refractory products for various metal and steel manufacturing industries.

Operations are divided into three Sections:

a) The Desulfax Bricketer operation. In this section the facility manufactures various sizes and shapes of brickettes of chemicals. These bricketts are used in steel industry as additives for purifying the metal. Operations in this department are permanently shut down. Equipment in this department includes weigh hopper, mixer and brickette maker, all vented to baghouse dust collector are currently setting idle in the plant.

b) Impad system: Operating equipment includes two mixers, Moller mixer & Sigma blade mixer are vented to individual baghouses. Product from the mixers is conveyed to mold making area where the material is poured into molds before baking in the oven. The product from the department is used in steel and metal melting/refinery industry for pouring of molten metal.

c) Hydropulper department. There are five hydropulpers operated. Newspaper, silica, resin and other materials are mixed in water slurry, then are filtered, shaped and baked in oven. Products from this department are used as insulating agents in steel and metal melting/refining industry. Other equipment in this department include batch weighing station and one recycle material crusher. All equipment in this department is vented to one baghouse dust collection system.

2.0 Purpose of Inspection

Annual inspection pursuant to work plan requirements.

2.1 Compliance History

The facility in the past has been in compliance with Illinois air pollution regulations.

2.2 Observations-Discussion Related to Inspection

11/2/90 Inspection findings by H. Narayen
An inspection of the facility was attempted on the above date. While at the plant, the author witnessed all entrances to the plant were locked. It appeared that the plant was shut down. Later on a call to the company was made and it was learned that the plant was permanently shut down in June 1990.

October 30, 1989 Inspection by H. Narayen:
Mr. Curt Weaver and Mr. Alfred Kiss conducted a tour of the plant and provided the necessary information. The Desulfax bricketer department is permanently shut down and the equipment is sitting idle. The two mixers, the Moller mixer and Sigma blade mixer, in the impad system department were not in operation during the inspection. Both the mixers are vented to individual baghouse dust collection systems.

The hydropulpers were observed in operation with no apparent problems and no visible emissions from the baghouse stack.

The facility seems to be operating in compliance with emission limitations.

The check of the air pollution control maintenance records shows them not to be complete and up to date, an apparent violations of Section 9(b) of the Act and Standard Condition 8 of the operating permit.

November 3, 1988 Inspection findings by H. Narayen
Mr. Kiss conducted a tour of the plant and provided the necessary information.

The Desulfax bricketer was not in operation and there is a strong possibility that the equipment will be removed and shipped to Cleveland, Ohio, in the next 3 to 4 months.

Impad system was in operation with no apparent violations. The following is the production data for Impad system equipment.

Annual current estimated production rate - 175 TPY operations one batch.
Batch weight: 2300 lbs (approximately)
No. of batches per month: 25
Material composition in each batch.

a)	Magnesite (MgO)	2000 lbs
b)	Liquid phenolic resin (25% by wt. Isopropanol)	200 lbs
c)	Isopropanol	26 lbs
d)	Calemanite (CaO & Boron, etc.)	45 lbs
e)	Mono. Sod. Orthophosphate	22 lbs
	Total	2293 lbs

2.2 **Observations-Discussion Related to Inspection** - continued

The isopropanol is emitted from this process from the mixer and from the curing ovens. Based on current production data of 25 batches per month, the isopropanol emissions are estimated to be 9.9 TPY.

The five hydropulpers were in operation with no visible emissions.

June 14, 1988 Inspection findings by H. Narayen:
Mr. Alfred A. Kiss, Jr., conducted a tour of the plant and provided the necessary information. Operations at the plant have remained the same since the last inspection.

The Desulfax bricketer was in operation during the inspection. Emissions from the bricketer are vented to a baghouse dust collection system. There were no visible emissions from the baghouse stack. This unit is currently operated one shift for one week in a month.

Impad system was inspected next. There is no change in this operation. This unit was not in operation during the inspection.

Only five hydropulpers were currently operated at the plant. The other six hydropulpers are all out of service. There were no visible emissions from the hydropulpers.

May 18, 1987 Inspection findings by H. Narayen:
Mr. Alfred A. Kiss Jr., conducted a tour of the plant and provided the necessary information. The Desulfax bricketer was down for routine and necessary maintenance work. The hydropulpers were in operation. The IMPAD system is operated only a few hours a day to prepare the material for refractory board to be formed in other equipment. The facility has converted the N and N2 mixers to all wet operations and there are no emissions anticipated from the two mixers. The baghouse on N2 mixer is currently disconnected. The facility only operates six of the eleven hydropulpers.

Overall the plant operations seem to be in compliance with Illinois air pollution control regulations.

2.3 **Summary of Meetings**
N/A

2.4 **Telephone Call Reports**
N/A

3.0 **Emission Source Identification**
[Desulfax Bricketer controlled by baghouse]

This process has the following equipment in operation:

a) One twin mixer which is a dry mixer using air under pressure. The mixer has two small air bags for containing the material inside the mixer.

b) From the mixer, the material is pneumatically conveyed to catch basin and then to the bricketer.

All sources in this department are exhausted through one baghouse dust collector.

3.01 **Applicable Regulation**
Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective September 28, 1979.

3.02 **Process Flow Diagram**

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          TSP (2 small air bags & Main BH
A ----- Twin Mixer/Air Blending Pressure Vessel ----- Pneumatic Conveying --- B
        Lime & Al.
        Soda Ash
        Air

          TSP(BH)                      TSP(BH)
B ----- Catch Basin ------------- Bricketer
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3.1 **Emission Source Identification** [Impad System-Refractory Board-Dept.102]

3.11 **Applicable Regulations**
Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective 28, 1979.
Section 215.301 for OM emissions/Amended at 3 Ill. Reg. 124, effective July 28, 1979.

3.12 **Process Flow Diagram**

```
          OM
          TSP(BH Micropulsair)                  OM
A- Mixer/Blender ----- Core shooter -- Oven-- Mold cooling-- Shipping
   MgO
   Resin
   Isopropanol
   Clay
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3.2 **Emission Source Identification**
[11 Hydropulpers-only 5 in use-with TSP emission controlled by a baghouse dust collector]

3.21 **Applicable Regulations**
Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective September 28, 1979.

3.22 **Process Flow Diagram**

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                TSP(BH)
A ---------- Hydropulpers --------------- To other processes
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4.0 Permit Status

Permit #75040046 due to expire August 8, 1994.

4.1 Standard Conditions

The facility's air pollution control equipment maintenance records were found to be incomplete and not up to date.

4.2 Special Conditions

The facility's operating permit has TSP emission limitations from Impad system and hammer mills based on emission data provided in the permit application. As per Mr. Kiss Jr., the operations and emissions have decreased over the years and currently are lower than stated in the permit application.

4.3 New Source Review

N/A

5.0 Fugitive Dust Program

The facility has an operating program for fugitive dust filed with the Agency.

6.0 Opacity Observations

No opacity readings taken.

6.1 Visible Emission Observations

None observed

7.0 Emission Calculations

Source 3.0 Desulfax bricketer		Avg	Max
PWR lbs/hr		1708	3667
Operating hrs per year		0	3200
Actual controlled TSP emissions*	lbs/hr	0.41	0.88
	TPY	Nil	1.41
Allowable TSP emissions lbs/hr		2.3	3.5
	TPY	Nil	5.6

Source 3.1 Impad System		Avg	Max
PWR lbs/hr		1558	2077
TPY		0.78	1.04
Operating hours per year		800	2000
Actual controlled TSP emissions	lbs/hr	0.77	1.03
	TPY	0.31	1.03
Allowable TSP emissions lbs/hr		2.2	2.6
	TPY	0.88	2.6
Allowable OM emissions lbs/hr		24.8	37.5
	TPY	9.9	37.5

* NOTE: Emissions based on information contained in permit files and information provided during 11/3/88 inspection. No emission factors available for this type of source.

Source 3.2
Five Hydropulpers. Emissions are for all five Hydropulpers

Contaminant		Avg	Max
PWR	lbs/hr	62,000	62,000
	TPY	31.0	31.0
Operating hours per year		6,000	6,000
Actual controlled TSP emissions	lbs/hr	0.31	0.31
	TPY	0.93	0.93
Allowable TSP emissions	lbs/hr	33.0	33.0
	TPY	99.0	99.0

7.1 **Part 215 Organic Material Emission Calculations and Standards**

No sources subject to RACT requirements.

8.0 **Equipment Standards**

No sources subject to equipment standards.

9.0 **NSPS**

No sources subject to NSPS requirements.

10.0 **NESHAP**

No sources subject to NESHAP requirements.

11.0 **Stack Tests**

No known stack tests conducted by the company.

11.1 **Total Annual Plant Emissions (T/Y) Various Pollutants**

Contaminant	Avg	Max
TSP	1.30	3.37
SO_2	Nil	Nil
NOx	Neg	Neg
HC	9.9	37.5
CO	Nil	Nil

12.0 **Section 9(a) Factors**

No 9(a) complaints on file with the Agency.

13.0 **Multi-Media Factors**

No known multi-media factors pending.

13.1 **Chemical Safety**

Facility not on CSCP source list.

14.0 **Attainment/Non Attainment/Geographical Description**

The facility is located in a non-attainment area for TSP and ozone.

15.0 **Findings/Conclusions/Recommendations**

November 2, 1990 Inspection findings by H. Narayen
The plant operations have been shut down since June 1990.

October 30, 1989 Inspection by H. Narayen:
The facility was observed to be in violation of Section 9(b) of the Act and Standard Condition #8 of the operating permit for failure to properly maintain the maintenance records of air pollution control equipment.

June 24, 1988 Inspection by H. Narayen:
Overall, the facility operations were observed to be in compliance with Illinois air pollution control regulations and the sources have the necessary operating permits from the Agency.

HN:bh:0993L

cc: M. Zamco
File